

## **REMARKS**

Reconsideration of the present application is respectfully requested. Claims 1-96 were originally presented. Claims 48-96 have been withdrawn as being drawn to a non-elected invention. Claims 1, 22, 25, and 39 are amended herein and claim 3 was previously canceled, so that claims 1, 2, 4-47, and 97-106 are presently pending. Claims 1, 25, 42, and 97 are in independent form.

Applicants wish to thank the Examiner for the in-person interview courteously granted by the Examiner on March 29, 2006. During the interview, independent claims 1, 25, 42, and 97 were discussed in relation to the Office Action mailed December 21, 2005 and the following prior art: U.S. Patent No. 2,873,248 to Tate et al. (hereinafter Tate), U.S. Patent No. 4,473,658 to Schwartz (hereinafter Schwartz), U.S. Patent No. 5,716,516 to Micklich (hereinafter Micklich), and U.S. Patent No. 2,609,249 to Winter (hereinafter Winter).

In the Office Action, the Examiner rejected independent claims 1 and 25 under 35 U.S.C. § 103(a) as being unpatentable over Tate in view of Schwartz. For the following reasons, Applicants submit that independent claims 1 and 25, as amended, are patentable over the prior art, including Tate and Schwartz.

In order for a combination of references to render a claim obvious, that combination, *inter alia*, must teach or suggest all the claim limitations. (MPEP § 2143). As Applicants' representative proposed in the in-person interview, Applicants have amended independent claim 1 to recite "a regenerator lockhopper coupled between said regenerator receiver and said fluidized bed reducer." Applicants have also amended independent claim 25 to recite "a regenerator lockhopper having a regenerator lockhopper solids inlet and a regenerator lockhopper solids outlet." Applicants submit that neither Tate nor Schwartz teach employing a regenerator lockhopper coupled between a regenerator receiver and a reducer. In fact, the Examiner states that Tate and Schwartz "do not disclose an apparatus that includes lock hoppers." (Office Action, p. 4, lines 13-14). Accordingly, Applicants submit that independent claims 1 and 25, as amended, are not obvious over the combination of Tate and Schwartz.

Applicants additionally submit that it would not be obvious to modify the combination of

Tate and Schwartz to include a regenerator lockhopper. In the Office Action, the Examiner stated that “[t]he Micklich reference discloses that receivers and lockhoppers are conventionally used in processes that involve the transporting of particulates from one vessel to another. . . [and that] it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the teachings of [Tate] by utilizing lock hoppers as suggested by Micklich because such units are conventionally used and permit the transporting of particles from one environment to another.” (Office Action, p. 4, lines 15-21). However, Applicants submit that there is no motivation to modify Tate to employ the lockhoppers of Micklich.

As discussed in the in-person interview, Tate teaches a hydroforming process that continuously circulates catalyst particles through a system of fluidized bed vessels (i.e., reactor 10, regenerator 30, and pretreater 39 of FIGURE 1) to help control the oxidation state of the catalyst. One of the advantages touted by Tate is that unlike conventional fixed bed hydroforming systems, the inventive fluidized bed system is operated in a *continuous* manner. (Tate, col. 2, lines 1-3). In contrast, Micklich teaches a system for transporting particles in a *batchwise* manner. In fact, the use of lockhoppers in general requires a batchwise particle transport scheme because the primary function of a lockhopper is to intermittently isolate a fixed quantity of particles so that the conditions around the particles can be modified. For example, in Micklich, the lockhoppers are used to isolate fixed quantities of catalyst particles so that oxygen can be purged from the catalyst prior to batchwise introduction into the reactor. (Micklich, col. 8, lines 9-14). In view of the foregoing, Applicants submit that there is no motivation to modify Tate to employ the lockhoppers of Micklich because, for example, incorporating Micklich’s lockhoppers in the system of Tate would require the system of Tate to operate in a non-continuous manner - a result that is clearly undesirable based on the teachings of Tate.

In the Office Action, the Examiner rejected independent claim 42 under 35 U.S.C. 103(a) as being unpatentable over Tate in view of Micklich. For the reasons given below, Applicants respectfully submit that independent claim 42 is patentable over the prior art, including the combination of Tate and Micklich.

Independent claim 42 recites “a reactor lockhopper fluidly coupled to said reactor.” As above, the Examiner is relying on the lockhoppers disclosed in Micklich to modify the apparatus of Tate. For the same reasons as applied to independent claims 1 and 25, as amended, Applicants submit that there is no motivation to modify Tate to include lockhoppers. As discussed above, this is because Tate employs a system that operates in a continuous manner, and lockhoppers are only used in batchwise particle transfer. Thus, Applicants submit that independent claim 42 is not obvious over the prior art, including Tate and Micklich. Accordingly, Applicants respectfully request the rejection of independent claim 42 as being obvious over Tate in view of Micklich be withdrawn.

In the Office Action, the Examiner rejected independent claim 97 under 35 U.S.C. 103(a) as being unpatentable over Tate. For the reasons given below, Applicants submit that independent claim 97 is patentable over the prior art, including Tate.

In order to establish a *prima facie* case of obviousness, there must be some suggestion or motivation to make the proposed modification. MPEP 2143.01 states that one possible source of this motivation is the knowledge of one of ordinary skill in the art. The Examiner seems to be relying on this as the source of motivation for making the modification by stating that “it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Tate by sizing and orienting the conduit between the reactor and stripper as claimed because one would adjust such features based on space availability and desired capacity.” (Office Action, p. 6, lines 19-22). However, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to modify Tate to include a substantially horizontal coupling between the reactor and stripper. One of ordinary skill in the art would readily recognize that Tate is relying on gravity to transfer particles between the reactor and the stripper. This is because there are no other means of transport provided in conduit 19 in Fig. 1 of Tate. If one were to modify Tate to merely change the conduit to a horizontal position, the particles would not necessarily flow from the reactor to the stripper. Thus, there is absolutely no motivation to modify Tate to include a substantially horizontal coupling between the reactor and stripper. Accordingly, Applicants

respectfully submit that no proper *prima facie* case of obviousness has been established, and thus request the rejection of independent claim 97 as being obvious over Tate be withdrawn.

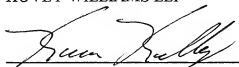
In light of the foregoing, Applicants submit that independent claims 1, 25, 42, and 97 should now be in condition for allowance. Additionally, while claims 2 and 4-24, which depend from independent claim 1, claims 26-41, which depend from independent claim 25, claims 43-47, which depend from independent claim 42, and claims 98-106, which depend from independent claim 97, all recite additional patentable features, these claims should also be in condition for allowance because they depend from patentable independent claims.

Applicants respectfully request that a timely Notice of Allowance be issued in this case. Should the Examiner have any questions, please contact the undersigned at (800) 445-3460.

A 1-month Petition for Extension of Time accompanies this Amendment. Please deduct the amount of \$120.00 for the petition fee set forth in 37 C.F.R. § 1.17(a), from our Deposit Account No. 19-0522. Also, the Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 19-0522.

Respectfully submitted,  
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By:



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